REMARKS

Claims 1-11, 13-21, 23-32, 34-40 and new independent Claim 41 remain pending in the application. Claim 12 has been cancelled and rewritten in independent form as new Claim 41. Claim 41 includes all of the limitations of the base claim and intervening claim and is believed to be allowable, as indicated by the Examiner in the Office Action dated August 31, 2004. Claim 22 has been cancelled. Independent Claim 33 which was withdrawn from consideration by the Examiner in the Office Action dated August 31, 2004, has been cancelled.

Drawings

Responding to the Examiner's objection to the drawings under 37 C.F.R. 1.83(a), Fig. 2 has been amended to add section lines 2A -- 2A and 2B -- 2B. New Figures 2A and 2B have been added by amendment to illustrate the originally disclosed structure of the top belt 26 and bottom belt 28 of bed strip 20, respectively. Fig. 2B is a section view taken along section line 2B -- 2B of Fig. 2 to illustrate the structure of bottom belt 28 as specifically described in paragraph [0031] of the original Specification. Paragraph [0031] of the Specification has been amended to reference Fig. 2B, and further to add reference numbers to show the association of the described structural elements to Fig. 2B. Fig. 2A is a section view taken along section line 2A -- 2A of Fig. 2 to illustrate the structure of top belt 26 as specifically described in paragraph [0032] of the original Specification. Paragraph [0032] of the Specification has been amended to reference Fig. 2A, and further to add reference numbers to show the association of the described structural elements to Fig. 2A.

Paragraphs [0031] and [0032] additionally include several word changes and word additions for consistency and clarity, without the addition of new matter. Paragraph [0040] has been amended to add a sentence which compares Figs. 3-6 with new Figs. 2A and 2B.

Corrective drawing sheets in compliance with 37 C.F.R. 1.121(d) have been submitted herewith. If the changes are not accepted by the Examiner, the Applicants will be pleased to

Amendments to Drawing Figures:

Fig. 2 of the drawings has been amended in response to the Examiner's objections. Fig. 2, as shown in the Replacement Sheet submitted herewith, has been amended to add section lines 2A - 2A and 2B - 2B, which section lines provide orientation for new Figs. 2A and 2B, which are supplemental to Fig. 2, and are also submitted herewith. The drawing sheet containing new Figs. 2A and 2B also bears the notation "Replacement Sheet" in the top margin. Both Replacement Sheets submitted herewith are replacements for original Fig. 2.

New Figs. 2A and 2B are submitted in compliance with 37 C.F.R. 1.83(a) and 37 C.F.R. 1.121(d) in response to the Examiner's objection that the plies of natural rubber and substrates of loom woven fabrics made from synthetic filament fibers which are specified in the claims must be shown in the drawings. Fig. 2A is a partial enlarged schematic cross-sectional view of the top belt of a bed strip incorporating the invention, taken along section line 2A of amended Fig. 2. Fig. 2B is a partial enlarged schematic cross-sectional view of the bottom belt of a livestock bed strip taken along section line 2B - 2B of amended Fig. 2. The new figures are based upon the original Specification and Drawings, and more particularly show in schematic enlarged cross section the structure of belts 26 and 28 of Figs. 1 and 2, as specifically disclosed and described in original paragraphs [0030] - [0032]. Paragraphs [0031] and [0032] have been amended to add drawing reference numbers to relate the structure fully disclosed in the Specification to the structure illustrated in the drawings which is inherent from the description of the Specification. No new components have been added by the new Figs. 2A and 2B. The drawings have been limited to schematic pictorial representation of the belt structure described in detail in paragraphs [0031] and [0032]. Figs. 2, 2A and 2B include no new matter.

respond to any required corrective action in the next Office Action.

The drawings were further objected to by the Examiner "as failing to comply with 37 C.F.R. 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element #51." Applicants respectfully traverse the objection by pointing out that element #51 is mentioned in the description at page 8, line 8, and identifies clamp 51, which is shown in Figs. 1, 3, 4, 5 and 6.

Applicants believe that no new matter has been added by this amendment.

Claim Rejections -- 35 USC § 103

Claims 1-4 and 19-32 stand rejected under 35 U.S.C. 1.03(a) as being unpatentable over U.S. Patent No. 6,152,077 to *Bristow* in view of U.S. Patent No. 3,503,084 to *Meinwieser.*

Regarding Claims 1, 34, and 36, Applicants agree with the Examiner's statement of the teaching of *Bristow* in the paragraph beginning at the bottom of page 3 of the Office Action of August 31, 2004. Applicants also agree with the Examiner's statement set forth in the paragraph commencing at line 6 on page 4 of the Office Action, wherein the Examiner sets forth those limitations of Applicants' claims with respect to which the *Bristow* reference is silent. Applicants disagree with the Examiner's statement that it would have been obvious to one of ordinary skill in the art to modify the teachings of *Bristow* with the teaching of *Meinwieser* to better accommodate the anatomical features and weight of the particular user as taught by *Meinwieser.* In order to clarify the distinction between Applicants' invention as set forth in Claims 1-11, 13-21, 23-32 and 34-40, and the *Meinwieser* reference taken alone or in combination with *Bristow,* Applicants have amended Independent Claims 1 and 34 to specify that Applicants' fluid chambers are adapted to contain a working volume of *substantially incompressible* fluid. Accordingly, as contemplated and made clear by the present amendment, the working fluid to be contained within the front and rear fluid chambers of Applicants' invention as specified in Claims 1 and 34, and all claims depending therefrom, will be incompressible liquid such as water, salt water or some other anti-freeze liquid, as specified at page 12, lines 11-14, and at page 14, lines 8-13 in the Specification.

Meinwieser discloses an air inflatable cushion characterized as a "marital cushion", wherein it is said that the inventor achieved greater lifting power from a large diameter chamber (bulge) than from a series of pneumatically connected smaller diameter chambers totaling the same plan area as the large bulge. More specifically, the inventor claimed to have achieved the apparently impossible result from an air inflatable cushion of providing a pneumatic support for the greater weight of the hips and legs to a height such as 5" and the lesser weight of the lower back to a graduated lesser height terminating at a minimal height where the middle of the back might rest directly on the mattress. In other words, *Meinwieser* claims that his pneumatically inflatable means support the heavier body portions at a higher level than the lighter body portions. He attributed that seemingly "opposite" from expected result to his variation of either the diameters or the length of the cylinders formed by the vinyl sheeting, which he implied produced surprising results.

Applicants herein point out that according to *Meinwieser*, his device achieved its surprising results because it was an air inflatable device which cooperated with "the tension on the vinyl sheeting or restriction by it" to provide greater lifting power from a large diameter bulge than from a series of pneumatically connected smaller diameter bulges totaling the same plan areas as the large bulge. It is further pointed out that a pressurized air-inflatable device performs entirely differently than a device filled with a substantially incompressible liquid of constant volume. A person attempting to improve the *Bristow* device, wherein the point loading of a standing animal's foot compresses the top sheet into frictional contact with a stable base, to provide that when the animal drops to its knees, the animal's knees will be cushioned and separated from the stable base by fluid between the belts, would not look to the *Meinwieser* reference relating to a specialized pneumatically inflatable marital cushion which by its stated terms is designed to allow human body parts of lesser weight and dimension to rest directly on the structure underlying the pneumatic cushion.

Furthermore, as disclosed in Applicants' Specification and illustrated by Claim 3, Applicants' bed strip for livestock is designed to allow the heavier portions of the livestock animal, the body trunk, to press portions of the top belt into stable contact with the bottom belt to thereby displace fluid between the top belt portion under the animal's body trunk into portions of the fluid chambers supporting the udder, knees and hocks of the animal. In other words, Applicants' liquid containing chambers allow the *heavier* portions of the animal's body to bottom out to a stable, non-floating resting position, and the *lighter* portions of the animal's body including the knees, hocks and udder to be supported by the fluid chambers when the animal lies down. This differential performance of Applicants' fluid chambers is exactly the opposite of the disclosed performance of the *Meinwieser* pneumatic marital cushion, the object of which is to support the greater weight of the hips, combined with the weight of the flexed legs, to a height such as 5", and the lesser weight of the lower back to a graduated lesser height terminating at a minimal height where the middle of the back might rest directly on the mattress. Thus the "apparently ... impossible" performance of the *Meinwieser* pneumatically inflatable means does not teach Applicants' structure or method of operation, and in fact teaches in a directly opposite direction concerning the cushion performance.

The fact that the *Meinwieser* reference shows a seal 26 which divides the marital cushion into two pneumatically interconnected sections does not inherently provide a disclosure which would suggest a way to modify the *Bristow* livestock bed to provide a better liquid cushion for the front knees of the animal when it drops to its knees when lying down. *Bristow* teaches

> To instill confidence in an animal by providing a secure footing, the bed should be so arranged and should contain fluid under such pressure that the point loading of a standing animal's foot presses the supporting sheet into frictional contact with a stable base (such as the other supporting sheet which lies upon the floor) whereas, when the animal lies

> down, fluid within the bladder is distributed such that all or substantially all parts of the animal's body are separated from the base by the fluid within the bladder.

Accordingly, the water filled bladder provided by *Bristow* is rather large and selectively filled with a limited amount of water such that the upper surface is easily depressed by the animal's foot so that the animal will feel stable and confident as it walks or stands on the water containing bladder. Under such conditions, the knees of the animal, which are generally of no greater dimension than the animal's hooves, will also readily press the top sheet of the bladder into frictional contact with the stable base when the animal drops to its front knees in the process of lying down. There is no teaching in either *Bristow* or *Meinwieser* which would suggest that the *Meinwieser* structure would be adaptable to the *Bristow* structure for the purpose of providing fluid support for the knees of the animal in a device where it was necessary to allow the hooves of the animal to press the sheet into frictional contact with the stable base sheet and underlying support. *Meinwieser* teaches a pressurized pneumatic device for supporting all of the heavy body parts in an elevated position and allowing the smaller and lighter parts to bottom out on the underlying mattress. *Bristow* does not recognize the need for liquid support for the knees during the process of lying down, but only states that a fluid volume can be selected which will permit the point loading of the animal's feet to press the supporting sheet into frictional contact with a stable base, whereas when the animal is lying down fluid within the bladder will be distributed such that substantially ***all parts*** of the animal's body are separated from the base by the fluid within the bladder.

Neither *Bristow* nor *Meinwieser* contain any teaching that would suggest a structure as claimed by Applicants wherein point loading of the animal's feet will cause the support sheet to press into frictional contact with a stable base, whereas the point loading of the animal's knees would be supported by a liquid when the animal first kneels on its front knees in the normal process of lying down. There is no teaching in *Meinwieser* that any portion of the pneumatically inflated marital cushion would bottom out in response to point loading of a hand or foot but would not bottom out when subjected to point loading by a knee or other body part similar in size to that of a hand or foot. Accordingly, Applicants contend that it would not have been obvious to one of ordinary skill in the art to modify the teachings of *Bristow* according to the teachings of *Meinwieser* to better accommodate the anatomical features and weight of livestock.

Regarding Claim 2, Applicants repeat that it would have been unobvious to modify the teachings of *Bristow* according to the teachings of *Meinwieser* to provide a device with front and rear fluid chambers which will elastically assume convex pillow-like shapes such that the point loading of a standing animal's foot on the fluid chamber will press the top belt into stable supporting contact with the bottom belt, whereas, when the animal drops to its knees on the front fluid chamber, the animal's knees will be cushioned and separated from the bottom belt by fluid between the belts, as specified in Independent Claim 1 from which Claim 2 depends.

Regarding Claims 3 and 35, Applicants state that only with the benefit of hindsight based on Applicants' disclosure can the Examiner suggest that *Bristow*, as modified by *Meinwieser*, would teach that as a livestock animal lies down on a "modified" bed, "substantial portions of the animal's body trunk will press portions of said top belt into stable contact with said bottom belt to thereby displace fluid from beneath the top belt portion under the animal's body trunk into portions of the fluid chambers supporting the udder, knees and hocks of the animal". *Bristow* states and claims that when the animal lies down, fluid within the bladder is distributed such that substantially ***all parts*** of said animal's body are separated from the base by fluid within the bladder. *Meinwieser* teaches that with his cushion, the heaviest supported human body parts, will be supported to a height such as 5" and the supported body parts of less weight "the lower back" will be supported at a graduated lesser height terminating at a minimum height where the middle of the back might rest directly upon the supporting mattress. Thus, contrary to the Examiner's statement of the requirements of Applicants' Claims 3 and 35, *Bristow* and

Meinwieser both teach that substantially all parts of the animal's body are separated from the base by the fluid within the bladder when the animal is lying down (*Bristow*) and the heaviest parts of the human form supported by the marital cushion are supported at a graduated height with the body parts of lesser weight being supported in a tapered manner until the middle of the back extends beyond the cushion to lie directly on the support mattress (*Meinwieser*). Thus, neither reference teaches the conditions specified in Claims 3 and 35, wherein substantial portions of the animal's body trunk will press portions of the top belt into stable contact with the bottom belt, and in turn displace fluid from beneath the top belt portion under the animal's body trunk into portions of the fluid chambers supporting the udder, knees and hocks of the animal. In fact, both *Bristow* and *Meinwieser*, to the extent that their disclosures possess commonality, teach that the heaviest body parts will be supported on a fluid cushion when the animal (human) lies down.

Regarding Claim 4, said claim is unobvious over the applied references for the same reasons as parent Claim 1, as discussed above.

Regarding Claim 19, only with the benefit of hindsight based upon Applicant's disclosure can the Examiner conclude that *Bristow* as modified teaches "the band has a dimension, in the direction parallel to said left and right sides of at least one bed, such that a standing animal may place its front hooves of said band in stable supporting relation". *Bristow* Figs. 5 and 6 show a livestock animal standing on a fluid filled bladder (which has no "band") wherein the point loading of the standing animal's feet have individually pressed the upper supporting sheet of the bladder into frictional contact with the stable base. This action occurs wherever the animal steps, and must do so so the animal perceives that it has stable footing and is sufficiently confident of its ability to stand or walk on the bladder surface. *Bristow* neither shows nor suggests having a band extending from the left side to the right side of the bed wherein the band is defined by a discontinuous type bond between the bottom belt and the top belt and has a dimension, in the direction parallel to the left and right sides of the bed, such that a standing animal may place its front hooves on the band in stable supported relation. *Meinwieser* discloses a pneumatic cushion for use in supporting the human anatomy, wherein a seal 26 extends partially across the width of the cushion to divide the cushion into separate chambers. However, the seal 26 is deeply recessed when the cushion is inflated, and is not of sufficient dimension in the transverse direction, nor sufficiently accessible when the cushion is inflated to support any significant point loaded portion of an animal. Furthermore, because the vinyl sheeting which forms the *Meinwieser* cushion is the same on both sides of the seal 26, as best shown in Figs. 3-5, any point loading of the seal would not be likely to force the seal all the way down to a supporting member. Accordingly, if the cushion of *Meinwieser* was laid on its side in the usual position for use, the seal 26 would be supported by the inflated portions of the cushion lying beneath the level of the seal on the underlying surface, and would resist depression of the seal 26 all the way to the underlying portion. Accordingly, even if a person skilled in the art would have conceived of a hoof support band in the form of a fluid-tight bond between the bottom belt and the top belt of *Bristow*, for which there is no teaching in *Bristow*, the *Meinwieser* reference would have provided no teaching of such a band having a dimension sufficient for a standing animal to place its front hooves. Nor would *Meinwieser* had suggested that such a band would have provided a stable support platform for the animal's feet, since the seal 26 is centrally positioned between the upper and lower side surfaces of the cushion as used. Accordingly, the structure of Claim 19 would not have been obvious to person of ordinary skill in the art from an examination of *Bristow* and *Meinwieser*, nor would either of such references have provided a teaching or suggestion or incentive for such a combination of the disparate references.

Regarding Claim 20, such claim is deemed allowable over the applied references for the same reasons as Independent Claim 1. Further, *Meinwieser* provides no suggestion for positioning of the band on a livestock bed. Only with the benefit of hindsight based upon Applicant's disclosure can the Examiner suggest that *Bristow,* as modified by *Meinwieser,* would render Claim 20 obvious.

Regarding Claim 21, such claim is deemed allowable over the applied references for the same reasons as parent Claim 1.

Regarding Claims 23-24, Applicants agree that *Bristow* teaches that his livestock bed fluid is liquid/water but believe that it is not obvious nor practical to combine the *Bristow* liquid filled livestock bed reference with the *Meinwieser* pneumatically inflated marital cushion to render obvious the structure of Claims 23 and 24. Claims 23 and 24 are deemed allowable for the same reasons as parent Claim 1.

Regarding Claims 25-32, such claims are deemed allowable over the applied references for the same reasons as Claim 1, from which they all depend directly or indirectly.

Claims 5-11 and 13-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Bristow* in view of *Meinwieser* as applied to Claim 1 as previously discussed, and further in view of U.S. Patent No. 3,426,891 to M*arks*. Applicants repeat their position that it would be unobvious to combine the teachings of *Bristow* and *Meinwieser* for the reasons discussed above, and that the structure as specified in Claim 1, and all claims dependent upon Claim 1, would not have been obvious in view of *Bristow* and *Meinwieser*. Accordingly, it is Applicants' position that Claims 5-11 and 13-18 are not obvious in view of *Bristow* and *Meinwieser*, alone or as further in view of *Marks*. *Marks* discloses an inflatable cargo cushion having an inner inflatable bladder and a disposable outer close-knit fabric cover of paper or plastic in which the cover is tubular, has transverse seams at the ends and is in firm engagement with the bladder when the bladder is inflated. The purpose of the fabric cover is to absorb impacts by both the deformation of the bladder and the deformation of the knitted fabric cover structure, with the forces of the impacts being distributed over a substantial area of the knitted fabric structure. As understood by Applicant's, *Marks* teaches a fabric cover continuously knit from paper and/or thermoplastic strips. There is no teaching in *Marks* of an inner ply of a laminated belt comprised of loom woven fabric of synthetic filament fibers as specified in Applicants' claims.

The knitted tubular sleeve cover of *Marks* could not be combined with the belts of *Bristow* to provide a livestock bed having a useful life of approximately 15 years, as required in commercial practice. The *Marks* sleeve is designed for one time use, and is purposefully made of inexpensive materials such as low-grade paper cut into strips, or plastic strips or waste fiber yarns. Such materials could not be placed over and around the *Bristow* beds and provide any significant useful life of more than one or a very few days. *Marks* entire cargo cushion consisting of the bladder and the protective cover is intended for single use or a relative few uses, and would not be suitable in an application where it would be trampled and laid upon by large dairy animals.

Applicants do recognize that commercial products produced under the *Bristow* patent did include rubber coated fabrics, wherein the fabrics consisted of "square weave" warp and weft fibers of identical plastic filaments. Such commercial belting materials did not include loom woven fabrics of synthetic filament fibers having polyester warp fibers extending in one direction and nylon weft structures extending in another direction to provide a belt with greater elasticity in either direction than the other, as specified in allowable Claim 41.

Regarding Claim 11, neither *Bristow,* as modified, nor *Marks* contains any suggestion of a material having a greater modulus of elasticity in a direction generally parallel to the front and rear ends of said belts, than in a direction generally parallel to said right and left ends of said belts. Accordingly, the structure of Claim 11 is not obvious in view of *Bristow* as modified and *Marks*.

Regarding Claims 13-18, such claims are deemed allowable over the applied references for the same reasons as parent Claim 1, set forth above.

Claims 37-40 are rejected under 35 USC § 103(a) as being unpatentable over *Bristow* in view of *Meinwieser* as applied to Claim 1 above, and further in view of U.S. Patent No.

4,076,872 to *Lewicki*. Claims 37-40 are believe to be allowable over *Bristow* as modified in view of *Meinwieser* for the same reasons as set forth above with respect to Claim 1 from which Claims 37 and 38 depend, and Claim 34, from which Claims 39 and 40 depend. In addition, Applicants do not view *Lewicki* as teaching a separation foil, as the Sheet 2 of Fig. 6 is a *thermoplastic* sheet, thinner than Sheet 1, which underlies Sheet 1 to which it is sealed by heat, solvents or adhesive. The chamber walls 5 of Sheet 1 are preformed in Sheet 1 by heat and/or vacuum, and no separation foils are interposed between Sheet 1 and Sheet 2 to prevent bonding between such sheets in any desired area.

Conclusion

Applicants have reviewed the prior art made of record and not relied upon. Applicants concur with the Examiner that such references to not anticipate or render obvious Applicants' claimed structure. Applicants submit that, in addition to new Claim 41, which has been rewritten in independent form in a manner in which the Examiner stated would make it allowable, all of the remaining claims, as amended, in the application are in condition for allowance. Favorable action thereon is respectfully solicited.

Respectfully submitted,

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